

Contents

<i>Acknowledgements</i>	vii
<i>Contributors</i>	ix
<i>Foreword</i>	xi

Part I. Introduction

1. A Manifesto for a Processual Philosophy of Biology	3
<i>John Dupré and Daniel J. Nicholson</i>	

Part II. Metaphysics

2. Processes and Precipitates	49
<i>Peter Simons</i>	
3. Dispositionalism: A Dynamic Theory of Causation	61
<i>Rani Lill Anjum and Stephen Mumford</i>	
4. Biological Processes: Criteria of Identity and Persistence	76
<i>James DiFrisco</i>	
5. Genidentity and Biological Processes	96
<i>Thomas Pradeu</i>	
6. Ontological Tools for the Process Turn in Biology: Some Basic Notions of General Process Theory	113
<i>Johanna Seibt</i>	

Part III. Organisms

7. Reconceptualizing the Organism: From Complex Machine to Flowing Stream	139
<i>Daniel J. Nicholson</i>	
8. Objectcy and Agency: Towards a Methodological Vitalism	167
<i>Denis M. Walsh</i>	
9. Symbiosis, Transient Biological Individuality, and Evolutionary Processes	186
<i>Frédéric Bouchard</i>	
10. From Organizations of Processes to Organisms and Other Biological Individuals	199
<i>Argyris Arnellos</i>	

Part IV. Development and Evolution

11. Developmental Systems Theory as a Process Theory 225
Paul Griffiths and Karola Stotz
12. Waddington's Processual Epigenetics and the Debate over Cryptic Variability 246
Flavia Fabris
13. Capturing Processes: The Interplay of Modelling Strategies and Conceptual Understanding in Developmental Biology 264
Laura Nuño de la Rosa
14. Intersecting Processes Are Necessary Explanantia for Evolutionary Biology, but Challenge Retrodiction 283
Eric Baptiste and Gemma Anderson

Part V. Implications and Applications

15. A Process Ontology for Macromolecular Biology 303
Stephan Guttinger
16. A Processual Perspective on Cancer 321
Marta Bertolaso and John Dupré
17. Measuring the World: Olfaction as a Process Model of Perception 337
Ann-Sophie Barwich
18. Persons as Biological Processes: A Bio-Processual Way Out of the Personal Identity Dilemma 357
Anne Sophie Meincke

- Index* 379